

CLAIMS:

1. An optical data reading/writing device for reading/writing to an information layer, the device comprising at least a first radiation source for generating a radiation beam and an optical system for converging the radiation beam on the information layer and for converging the radiation beam reflected by the information layer onto a detector, wherein the optical system incorporates a wavelength sensitive structure which compensates for a temperature-induced defocusing of the optical system.
2. An optical data reading/writing device as claimed in claim 1, in which the wavelength sensitive structure is a part of a refracting pre-collimator, a beam-shaper or a sensor lens of the optical system.
3. An optical data reading/writing device as claimed in either claim 1 or claim 2, in which the wavelength sensitive structure is located out of a common path for the radiation beam.
4. An optical data reading/writing device as claimed in claim 3, in which the wavelength sensitive structure is located between the at least one radiation source and a pre-collimator/beam-shaper of the optical system.
5. An optical data reading/writing device as claimed in claim 3, in which the wavelength sensitive structure is located between a beam-splitter element and a detector element of the optical data reading/writing device.
6. An optical data reading/writing device as claimed in any preceding claim, in which the wavelength sensitive structure is a grating structure.
7. An optical data reading/writing device as claimed in any preceding claim, in which the wavelength sensitive structure is a stepped phase structure.

8. An optical data reading/writing device as claimed in any preceding claim, in which the wavelength sensitive structure is a non-periodic phase structure.

9. An optical data reading/writing device as claimed in any preceding claim, in
5 which the wavelength sensitive structure is a diffractive structure.

10. An optical data reading/writing device as claimed in any preceding claim, which incorporates multiple radiation sources for reading/writing to different types or formats of information layer.

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11. An optical data reading/writing device as claimed in any preceding claim, in which the wavelength sensitive structure faces its respective radiation source.

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12. A method of compensating for temperature-induced defocusing of an optical system in an optical reading/writing device comprises including a wavelength sensitive structure in the optical system, which wavelength sensitive structure compensates for said defocusing.

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13. The method as claimed in claim 12, in which the wavelength sensitive structure faces a radiation source of the reading/writing device.

14. The method of either claim 12 or claim 13, which includes compensating for defocusing in at least two elements of the optical system.

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15. The method of claim 14, in which each of said elements has an associated wavelength sensitive structure.

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16. A refracting pre-collimator/beam-shaper/sensor lens for compensating for temperature defocusing incorporates a wavelength sensitive structure adapted to compensate for temperature defocusing.